

Installing Solaris 8 on a Sparc Workstation

ITOS Edition

\$Date: 2006/03/21 16:07:24 \$

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1 Overview

This is a recipe for installing Solaris 8 on a Sparc workstation that will run the ITOS. This recipe installs all the third party packages needed to run or maintain ITOS.

This recipe configures each workstation so that it can be a standalone system, a cluster client, or a cluster server.

The basic recipe is:

1. Install Solaris 2.8. See Chapter 2 [Install Solaris 2.8], page 1.
2. Install Patches. See Chapter 3 [Install Patches], page 3.
3. Configure Networking. See Section 3.1 [Configure Networking], page 3.
4. Install Packages to run ITOS. See Section 3.3 [Install Packages to run ITOS], page 7.
5. Install Packages to build ITOS. See Section 3.4 [Install Packages to build ITOS], page 8.
6. Configure NIS Server. See Section 3.2 [Configure NIS Server], page 5.

2 Install Solaris 2.8

1. Boot the computer from the CD-ROM labeled Solaris 8 Software. You might need to stop-A to get to an ‘Ok’ prompt; from the ‘Ok’ prompt enter ‘boot cdrom’. It may take several minutes(10-30 depending on the machine) to boot from the CD-ROM; eventually OpenWindows will start ...
2. The first window lets you select languages and locales. Do not select the defaults; instead select ‘English’ and ‘USA (ISO8859-1)’. Note that we recommend ‘USA (ISO8859-1)’, not ‘USA (ascii)’!
3. Click Continue twice to get past the next two windows. Select ‘Yes’ when asked if this machine is networked, and ‘No’ when asked about using DHCP.
4. Enter this machine’s short host name. I.e enter ‘sunland’, not ‘sunland.gsfc.nasa.gov’. (If you enter the long name, NIS gets confused; if you enter the short name, sendmail gets confused. Sun recommends entering the short name).
5. Enter this machine’s IP address. On the next window, enable IPv6. If everything looks OK on the ‘Confirm Information’ window, click ‘Continue’.
6. Do not enable Kerberos. Click ‘Continue’ to confirm.
7. Select NIS at the ‘Name Service’ window. If this is going to be an NIS server (cluster leader or standalone ITOS workstation), we’ll wind up changing the NIS setup later, but this works well for ITOS lab systems. On the next window, enter the proper NIS domain name (as distinct from the DNS domain!).
8. Select ‘Specify one’ when asked about a name server, and enter it’s host name and IP address on the next window.
9. If the system is part of a subnet (they usually are), select ‘Yes’ and then enter the subnet mask. Confirm everything and click ‘Continue’.
10. Select the time zone. We usually select by Geographic Region. Region us, timezone eastern, continue. Verify the time and date, and confirm all the time settings. At this point the console will report ‘System identification is completed.’ and there will be a pause.

11. Eventually you'll get to the screen that asks you to select whether this is an upgrade or an initial install. Always select Initial, even if it's actually an upgrade. Continue through the next window.
12. We do not add support for additional geographic regions, so click through this window.
13. Select 'Entire Distribution'. If you're on an Ultra Sparc, select 'Include Solaris 64 Bit Support'.
14. Select which disks you want to install onto. We don't usually preserve any data, so continue through the next window.
15. Select auto layout. You will be given a list of file systems, make sure that '/', '/usr', '/var', 'swap' are selected and if you are going to load Answer-Books, add '/opt' as well. Then click Continue.
16. On the 'File System and Disk Layout' window click Customize. The following is the suggested configuration for a modern disk:

'/'	100MB
'/var'	512MB
'swap'	512MB (or twice RAM, whichever is larger)
'/usr'	1600MB
'/export'	whatever's left

It's a good idea to click on the disk icon and verify that no free cylinders remain before proceeding.

17. No, we don't want to mount software from a remote file server. Click Continue at this window.
18. At the 'Profile' window, select 'Begin Installation'. Select 'Auto Reboot' on the next window.
19. Get lunch or something - this will take a while.
20. When the machine reboots, it will ask for the root password. Enter the root password.
21. A long message will come up asking if want to allow your system to auto shutdown after 30 minutes. At the [y,n,?] prompt, enter 'n'.
22. Do you want the system to ask ... [y,n,?] enter 'n'.
23. The window system starts, and a 'Specify Media' window appears. Select 'CD' and click 'Next>'. It will then prompt you to insert the second CD. Do so and click 'OK'.
24. When the installation is finished, click 'Next>' and the CD will eject. Click 'Reboot Now'. The system will reboot.
25. Log in as root. We select CDE and set desktop options now (i.e., we like 'Point In Window To Make Active' and we hate 'Raise Window When Made Active'; we like 'Return to Home session' and we like the 'Logout Confirmation Dialog' to be off).
26. Before we can do much else, we need to set up some basic networking and other items:
 1. Edit '/etc/hosts'. Add the fully qualified host name to the line for this system.
 2. Create '/etc/resolv.conf'. This makes it a little bit easier to copy stuff from other machines. It should look something like:

```

/# cd /etc
/etc# cat > resolv.conf
domain my.domain
nameserver 99.99.99.99
^D
/etc#

```

3. Run ‘route add default 99.99.99.99 1’ where “99.99.99.99” is the IP address of the default router.

3 Install Patches

1. Retrieve the latest public patch cluster from Sun (<http://sunsolve.Sun.COM/pub-cgi/show.pl?target=patch&category=public&product=Solaris&version=8&platform=SPARC&language=en>). Be sure to get the cluster for the appropriate CPU. Save the file on a filesystem with plenty of space; for example, /export.
2. To install the patch cluster, it is strongly recommended that the system be in single-user mode. Get there by doing:

```
# reboot -- -s
```

The system reboots to single-user mode. When prompted, enter the root password to log in.

3. Now, assuming you downloaded the patch file to ‘\$DIR’, unzip and install the patch as follows:

```

# mountall
# cd /export
# unzip 8_Recommended.zip
# cd 8_Recommended
# ./install_cluster

```

Expect the installation to take a couple hours..

4. When the installation completes successfully, remove what we downloaded and unzipped and reboot:

```

# cd ..
# rm -rf 8_Recommended*
# reboot

```

3.1 Configure Networking

1. Create ‘/etc/shells’:

```

/etc# cat > shells
/bin/sh
/bin/csh
/bin/ksh
/bin/bash
/usr/local/bin/bash
^D
/etc#

```

2. Create '/usr/local' and '/usr/local/bin'. In '/usr/local/bin', create symbolic links to '/usr/bin/perl' and '/usr/bin/bash'.

```
/etc# mkdir /usr/local
/etc# mkdir /usr/local/bin
/etc# cd /usr/local/bin
/usr/local/bin# ln -s /usr/bin/bash
/usr/local/bin# ln -s /usr/bin/perl
/usr/local/bin# cd /etc
```

3. Make sure '/etc/defaultrouter' exists. It should be one line, the IP address of the default router. For example:

```
/etc# cat defaultrouter
99.99.99.99
^D
/etc#
```

4. Disable inetd services (we'll restore services when we install tcp-wrappers and ssh). Comment out everything except the 'rstatd' line in '/etc/inetd.conf'.

5. Disable sendmail.

```
/etc# cd /etc/mail
/etc/mail# mv sendmail.cf sendmail.cf-dist
/etc/mail# cd /
#
```

6. Give root a reasonable working environment:

```
#!/bin/sh
# cat > .profile
PATH=/bin:/sbin:/usr/sbin:/usr/local/bin:/usr/dt/bin
PATH=$PATH:/usr/openwin/bin:/usr/ccs/bin:/usr/ucb
alias lf='bin/ls -CF'
if [ x$PS4 != x ] ; then
    set -o emacs
    PS1='$PWD# '
fi
export ENV=.profile
^D
#!/bin/sh
# cat > .bashrc
PATH=/bin:/sbin:/usr/sbin:/usr/local/bin:/usr/dt/bin
PATH=$PATH:/usr/openwin/bin:/usr/ccs/bin:/usr/ucb
alias lf='bin/ls -CF'
PS1='\w# '
^D
#!/bin/sh
# cat > .Xdefaults
OpenWindows.AutoRaise: False
OpenWindows.SetInput: followmouse
OpenWindows.ShowMoveGeometry: true
OpenWindows.ShowResizeGeometry: true
^D
#
```

7. Fix '/etc/dt/config/Xaccess'

```

# mkdir /etc/dt
# mkdir /etc/dt/config
# touch /etc/dt/config/Xaccess

8. Edit '/etc/system'; add the following line:
    set semsys:seminfo_semmnu = 60

Note that you must reconfigure (i.e., reboot -- -r) for this to take effect.

9. reboot -- -r.

```

3.2 Configure NIS Server

1. The NIS software gets installed as part of the OS; there is no *Server Supplement 1.1* CD like there was with earlier versions of Solaris.
2. We initially configure all systems as NIS servers; we'll later reconfigure most systems to be clients. This makes it easier to break and reconfigure clusters.

Create '/var/yp/maps/', which should be owned by root with permissions drwx-----:

```

#/ mkdir /var/yp/maps
#/ chmod 700 /var/yp/maps
#/ cd /var/yp/maps
/var/yp/maps#

```

The following are minimal starting points for populating '/var/yp/maps':

```

'auto_direct'
/var/yp/maps# cat > auto_direct
/usr/local -rw myname:$DIR/usr+local
^D
/var/yp/maps# mkdir $DIR/usr+local
/var/yp/maps# cat > /etc/auto_direct
+auto_direct
^D
/var/yp/maps#

```

Where *myname* is the name of the computer being configured.

```

'auto_home'
/var/yp/maps# cat > auto_home
* myname:$DIR/home/&
^D
/var/yp/maps# mkdir $DIR/home
/var/yp/maps#

'auto_master'
/var/yp/maps# cat > auto_master
/- /etc/auto_direct
/home /etc/auto_home -rw,nosuid
/net -hosts -rw,nosuid
^D
/var/yp/maps#

```

'group'

```

/var/yp/maps# touch group
/var/yp/maps#
'hosts'
/var/yp/maps# touch hosts
/var/yp/maps#
'netgroup'
/var/yp/maps# touch netgroup
/var/yp/maps#
'passwd'
/var/yp/maps# touch passwd
/var/yp/maps#
'shadow'
/var/yp/maps# touch shadow
/var/yp/maps#

```

3. Fix permissions:

```

/var/yp/maps# chmod 600 *
/var/yp/maps#

```

4. Edit '/var/yp/Makefile'.

- Uncomment the 'B=-b' line; comment out the 'B=' line.
- Change 'DIR=/etc' to 'DIR=/var/yp/maps'.
- Change 'PWDIR = /etc' to 'PWDIR = /var/yp/maps'
- add a section for auto.direct. Basically just copy all the stuff for auto.home and change auto.home to auto.direct.

5. Create '/var/yp/securenets'. This is for security; the server will only serve hosts listed in this file. Lines in this file look like:

```

/var/yp/maps# cat > securenets
host 99.99.99.99
^D
/var/yp/maps#

```

The IP number - not the DNS name - must be used.

6. Set the NIS domainname to the new cluster's domainname:

```

/var/yp/maps# domainname xyz
/var/yp/maps# domainname > /etc/defaultdomain

```

7. Create the master NIS database:

```

/var/yp/maps# /usr/sbin/ypinit -m

```

8. Fix '/etc/nsswitch.conf'. Everything except passwd, group, hosts, netgroup, automount, and aliases should be 'files'.

9. Test it out by running '/usr/lib/netsvc/yp/ypstart'.

10. Reboot.

3.3 Install Packages to run ITOS

Solaris 8 comes with everything needed to run ITOS, except libXpm, so...

Install xpm.3.4k.SPARC.32bit.Solaris.8.pkg.tgz, which we originally obtained from <ftp://ftp.x.org/contrib/libraries/> by way of <http://www.xemacs.org/>. Unrestricted license from Groupe Bull. This package is needed by ITOS.

```
$DIR/local-src# gtar zxf $T/xpm.3.4k.SPARC.32bit.Solaris.8.pkg.tgz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf xpm
$DIR/local-src#
```

We always install ssh to make so our systems are accessible in a secure manner over the network.

We install these additional packages to make the system more useable.

1. Install GNUTar.1.13.SPARC.32bit.Solaris.8.pkg.tar, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of GNUTar is allowed under the GNU license.

```
$DIR/local-src# /usr/local/bin/zcat
$T/GNUTar.1.13.SPARC.32bitSolaris.8.pkg.tgz | tar xvf -
$DIR/local-src# pkgadd -d .
follow the prompts ...
/usr/local-src# rm -rf GNUTar
/usr/local-src# (cd /usr/local/bin; ln -s tar gtar
/usr/local-src#
```

2. Install jpeg-6b.SPARC.64bit.Solaris.8.pkg.tar.gz (needed for xemacs). We originally obtained this from <ftp://ftp.uu.net.graphics/jpeg/> by way of <http://www.xemacs.org/>. Unrestricted license from the Independent JPEG Group.

```
$DIR/local-src# gtar zxf $T/jpeg-6b.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf jpeg
$DIR/local-src#
```

3. Install tiff.3.4.SPARC.32bit.Solaris.8.pkg.tar.gz. We originally obtained this from <ftp://ftp.sgi.com/graphics/tiff/> by way of <http://www.xemacs.org/>. Unrestricted license from SGI and Sam Leffler. This package is needed by xemacs (I think).

```
$DIR/local-src# gtar zxf $T/tiff.3.4.SPARC.32bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf tiff
$DIR/local-src#
```

4. Install xemacs.21.1.14.SPARC.64bit.Solaris.8.pkg.tar.gz. Redistribution and use of xemacs is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/xemacs.21.1.14.SPARC.64bit.Solaris.8.pkg.tar.g
$DIR/local-src# pkgadd -d .
```

follow the prompts ...

```
$DIR/local-src# rm -rf xemacs
$DIR/local-src#
```

5. Install super.3.14.0.SPARC.64bit.Solaris.8.pkg.tar.gz. Redistribution and use of super is allowed under either the GNU GPL or the Artistic License.

```
$DIR/local-src# gtar zxf $T/super.3.14.0.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf super
$DIR/local-src#
```

6. Install olvwm.4.1.SPARC.64bit.Solaris.8.tar.gz. Redistribution and use in "individual and commercial software" is permitted under accompanying general license from Sun.

```
$DIR/local-src# gtar zxf $T/olvwm.4.1.SPARC.64bit.Solaris.8.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf olvwm
$DIR/local-src#
```

7. Install cpio2.4.2.tar.gz, which is needed to make Triana-compatible file loads. Redistribution and use of cpio is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/cpio2.4.2.tar.gz
$DIR/local-src# cd cpio2.4.2
$DIR/local-src/cpio2.4.2# ./configure && make install
$DIR/local-src/cpio2.4.2# cd ..
$DIR/local-src#
```

3.4 Install Packages to build ITOS

1. Install GNUGcc.2.95.3.SPARC.64bit.Solaris.8.pkg.tar, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of GNUGcc is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/GNUGcc.2.95.3.SPARC.32bitSolaris.8.pkg.tgz
$DIR/local-src# pkgadd -d .
follow the prompts ...
/usr/local-src# rm -rf GNUGcc
/usr/local-src#
```

2. Install GNUMake-3.78.1.SPARC.32bit.Solaris.8.pkg.tgz, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of GNUMake is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/GNUMake-3.78.1.SPARC.32bit.Solaris.8.pkg.tgz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf GNUMake
$DIR/local-src#
```

3. Perl5.005_03 is pre-installed.

4. Install GNUM4.1.4.SPARC.32bit.Solaris.8.pkg.tgz. Redistribution and use of m4 is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/GNUM4.1.4.SPARC.32bit.Solaris.8.pkg.tgz  
$DIR/local-src# pkgadd -d .  
follow the prompts ...  
$DIR/local-src# rm -rf GNUM4  
$DIR/local-src#
```

5. Install GNUautoconf.2.13.SPARC.32bit.Solaris.8.pkg.tgz. Redistribution and use of autoconf is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/GNUautoconf.2.13.SPARC.32bit.Solaris.8.pkg.tz  
$DIR/local-src# pkgadd -d .  
follow the prompts ...  
$DIR/local-src# rm -rf GNUaconf  
$DIR/local-src#
```

6. Install GNUautomake.1.4.SPARC.32bit.Solaris.8.pkg.tar.gz. Redistribution and use of automake is allowed under the GNU license.

```
$DIR/local-src#gtar zxf $T/GNUautomake.1.4.SPARC.32bit.Solaris.8.pkg.tar.gz  
$DIR/local-src# pkgadd -d .  
follow the prompts ...  
$DIR/local-src# rm -rf GNUamake  
$DIR/local-src#
```

7. Install GNULibtool.1.3.5.SPARC.32bit.Solaris.8.tar.gz. Redistribution and use of libtool is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/GNULibtool.1.3.5.SPARC.32bit.Solaris.8.tar.gz  
$DIR/local-src# pkgadd -d .  
follow the prompts ...  
$DIR/local-src# rm -rf GNULtool  
$DIR/local-src#
```

8. GNU Bash-2.03.0 is pre-installed. Redistribution and use of bash is allowed under the GNU license.

9. Install tcp_wrappers.7.6.ipv6.1.SPARC.64bit.Solaris.8.pkg.tar.gz. See Chapter 1 [Top], page 1. License ???

```
$DIR/local-src# gtar zxf  
$T/tcp_wrappers.7.6.ipv6.1.SPARC.64bit.Solaris.8.pkg.tar.gz  
$DIR/local-src# pkgadd -d .  
follow the prompts ...  
$DIR/local-src# rm -rf tcpwrap  
$DIR/local-src#
```

10. Install GNU patch-2.5.4 is pre-installed.. Redistribution and use of patch is allowed under the GNU license.

11. Install prngd.0.9.17.SPARC.64bit.Solaris.8.tar.gz, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of Perl is allowed under the Artistic license.

```
$DIR/local-src# gtar zxf $T/prngd.0.9.17.SPARC.64bit.Solaris.8.tar.gz  
$DIR/local-src# pkgadd -d .
```

- follow the prompts ...*
- ```
$DIR/local-src# rm -rf prngd
$DIR/local-src#
```
12. Install openssl.0.9.6a.SPARC.64bit.Solaris.8.pkg.tar.gz, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of Perl is allowed under the Artistic license.
- ```
$DIR/local-src# gtar zxf $T/openssl.0.9.6a.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf openssl
$DIR/local-src#
```
13. Install openssh.2.9.p1-with-tcp-wrappers.7.6.ipv6.1.SPARC.64bit.Solaris.8.tar.gz, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of Perl is allowed under the Artistic license.
- ```
$DIR/local-src# gtar zxf $T/openssh.2.9.p1-with-tcp-wrappers.7.6.ipv6.1.SPARC.64bit.Solaris.8.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf openssh
$DIR/local-src#
```
14. Install mved. License???.
- ```
$DIR/local-src# cp $T/mved /usr/local/bin
$DIR/local-src# chmod 555 /usr/local/bin/mved
$DIR/local-src#
```
15. Install ImageMagick.5.2.6.SPARC.64bit.Solaris.8.pkg.tar.gz. Originally obtained from <http://www.ImageMagick.org/>.
- ```
$DIR/local-src# gtar zxf
$T/ImageMagick.5.2.6.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf immagick
$DIR/local-src#
```
16. tcsh is pre-installed.
17. Install GNUMbison.1.28.SPARC.32bit.Solaris.8.pkg.tgz. Redistribution and use of bison is allowed under the GNU license.
- ```
$DIR/local-src# gtar zxf $T/GNUMbison.1.28.SPARC.32bit.Solaris.8.pkg.tgz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf GNUMbison
$DIR/local-src#
```
18. Install flex.2.5.4a.SPARC.64bit.Solaris.8.pkg.tar.gz. Redistribution and use of flex is allowed under the GNU license.
- ```
$DIR/local-src# gtar zxf $T/flex.2.5.4a.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
```

```
$DIR/local-src# rm -rf flex
$DIR/local-src#
```

19. Install cvs-1.10.8.tar.gz (from <http://download.cyclic.com/pub/>): Redistribution and use of cvs is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/cvs-1.10.8.tar.gz
$DIR/local-src# cd cvs-1.10.8
$DIR/local-src/cvs-1.10.8# ./configure && make install
$DIR/local-src/cvs-1.10.8# cd ..
$DIR/local-src#
```

20. Install tcl8.3.0.tar.gz and tk8.3.0.tar.gz, which we obtained from <http://dev.scriptics.com/software/t>. License???

```
$DIR/local-src# gtar zxf $T/tcl8.3.0.tar.gz
$DIR/local-src# cd tcl8.3.0/unix
$DIR/local-src/tcl8.3.0/unix# ./configure --enable-gcc --enable-shared
$DIR/local-src/tcl8.3.0/unix# make install
$DIR/local-src/tcl8.3.0/unix# cd ../..
$DIR/local-src# gtar zxf $T/tk8.3.0.tar.gz
$DIR/local-src# cd tk8.3.0/unix
$DIR/local-src/tk8.3.0/unix# ./configure --enable-gcc
$DIR/local-src/tk8.3.0/unix# make install
$DIR/local-src/tk8.3.0/unix# cd ../..
$DIR/local-src# (cd /usr/local/bin; ln -s tclsh8.3 tclsh)
$DIR/local-src# (cd /usr/local/bin; ln -s wish8.3 wish)
$DIR/local-src#
```

21. less-340 is pre-installed. Redistribution and use of less is allowed under the GNU license.

22. Install gdb.5.0.SPARC.64bit.Solaris.8.pkg.tar.gz Redistribution and use of gdb is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/gdb.5.0.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf gdb
$DIR/local-src#
```

23. Install xv-3.10a.tar.gz. License???

```
$DIR/local-src# tar zxf $T/xv-3.10a.tar.gz
$DIR/local-src# cd xv-3.10a
$DIR/local-src/xv-3.10a#
$DIR/local-src/xv-3.10a# make CC=gcc
$DIR/local-src/xv-3.10a# make install
$DIR/local-src/xv-3.10a# cd ..
$DIR/local-src#
```

24. Install JLex 1.2.5. (We got it from <http://www.cs.princeton.edu/~appel/modern/java/JLex/>). License???

```
$DIR/local-src# mkdir /usr/local/JLex
$DIR/local-src# cd /usr/local/JLex
```

```
/usr/local/JLex# cp $T/JLex-1.2.5-Main.java Main.java
/usr/local/JLex# javac Main.java
/usr/local/JLex# cd $DIR/local-src
$DIR/local-src#
```

25. Install acroread (we got sunsparc-rs-405.tar.gz from <http://www.adobe.com/> and renamed it acroread-sunsparc-rs-405.tar.gz): License???

```
$DIR/local-src# gtar zxf acroread-sunsparc-rs-405.tar.gz
$DIR/local-src# cd SSOLRS.install
$DIR/local-src/SSOLRS.install# ./INSTALL
accept the license agreement
install in /usr/local/Acrobat4 (not /opt/Acrobat4)
yes, create the directory
$DIR/local-src/SSOLRS.install# cd ..
$DIR/local-src# (cd /usr/local/bin; ln -s .. /Acrobat4/bin/acroread .)
$DIR/local-src#
```

26. Netscape-Communicator 4.7 is Pre-installed.

27. Install teTeX.1.0.7+texmf.1.0.2.SPARC.64bit.Solaris.8.pkg.tar.gz) License???

```
$DIR/local-src# gtar zxf
$T/teTeX.1.0.7+texmf.1.0.2.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf tetexmf
$DIR/local-src#
```

28. Install dvipdfm.0.13.2b.SPARC.64bit.Solaris.8.pkg.tar.gz. License???

```
$DIR/local-src# gtar zxf
$T/dvipdfm.0.13.2b.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf dvipdfm
$DIR/local-src#
```

29. install texinfo.3.12i.texi2www.SPARC.64bit.Solaris.8.pkg.tar.gz Redistribution and use of texinfo is allowed under the GNU license.

```
$DIR/local-src# gtar zxf
$T/texinfo.3.12i.texi2www.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf tinfowww
$DIR/local-src#
```

30. install md5.tar.gz. License???

```
$DIR/local-src# mkdir md5
$DIR/local-src# cd md5
$DIR/local-src/md5# gtar zxf $T/md5.tar.gz
Edit Makefile; change 'cc' to 'gcc'
$DIR/local-src/md5# make
$DIR/local-src/md5# cp md5 /usr/local/bin
```

```
$DIR/local-src/md5# cd ..
$DIR/local-src#
```

31. Install glib.1.2.10.SPARC.64bit.Solaris.8.pkg.tar.gz and gtk+-1.2.8.tar.gz. Redistribution and use of glib and gtk+ are allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/glib.1.2.10.SPARC.64bit.Solaris.8.pkg.tar.gz
$DIR/local-src# pkgadd -d .
follow the prompts ...
$DIR/local-src# rm -rf glib
$DIR/local-src#
$DIR/local-src# gtar zxf $T/gtk+-1.2.8.tar.gz
$DIR/local-src# cd gtk+-1.2.8
$DIR/local-src/gtk+-1.2.8# LD_LIBRARY_PATH=/usr/local/lib ./configure
$DIR/local-src/gtk+-1.2.8# make install
$DIR/local-src/gtk+-1.2.8# cd ..
$DIR/local-src#
```

32. Install gimp-1.0.4.tar.gz and gimp-data-extras-1.0.0.tar.gz Redistribution and use of the gimp is allowed under the GNU license.

```
$DIR/local-src# gtar zxf $T/gimp-1.0.4.tar.gz
$DIR/local-src# cd gimp-1.0.4
$DIR/local-src/gimp-1.0.4# LD_LIBRARY_PATH=/usr/local/lib ./configure
$DIR/local-src/gimp-1.0.4# make install
$DIR/local-src/gimp-1.0.4# cd ..
$DIR/local-src# gtar zxf $T/gimp-data-extras-1.0.0.tar.gz
$DIR/local-src# cd gimp-data-extras-1.0.0
$DIR/local-src/gimp-data-extras-1.0.0# ./configure && make install
$DIR/local-src/gimp-data-extras-1.0.0# cd ..
$DIR/local-src#
```

33. Apache\_1.3 is pre-installed.

34. samba-2.0.6.tar.gz

```
$DIR/local-src# gtar zxf $T/samba-2.0.6.tar.gz
$DIR/local-src# cd samba-2.0.6/source
samba-2.0.6/source# ./configure --with-automount
--with-private-dir=/var/samba/private
--with-lockdir=/var/samba/locks
--with-swatdir=/var/samba/swat
samba-2.0.6/source# mkdir /var/samba
samba-2.0.6/source# make && make install
samba-2.0.6/source# cd ../..
$DIR/local-src#
```

35. xautolock-pl15.tgz, which we obtained from <ftp://ftp.x.org/contrib/applications/>.

```
$DIR/local-src# gtar zxf $T/xautolock-pl15.tgz
$DIR/local-src# cd xautolock-pl15
$DIR/local-src/xautolock-pl15# xmkmf
$DIR/local-src/xautolock-pl15# make CC=gcc CCOPTIONS= PICFLAGS=-
fpic
$DIR/local-src/xautolock-pl15# BINDIR=/usr/local/bin install
```

```
$DIR/local-src/xautolock-pl15# cd ..
$DIR/local-src#
36. xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
37. Install StarOffice from Solaris 8 distribution cdrom.
38. Installation of Motif 2 is neccessary if using the Solaris 2.6 compiled version of ITOS.
It can be obtained from the www.opengroup.org/motif site.
```

### 3.5 Make a CDROM

At this point the workstation is configured well enough to make a CDROM that will help install other systems.

#### 3.5.1 Create and Populate the ‘\$DIR/cdrom-image’ Directory

The first step in making our CDROM is to create the files and directories we want on the CDROM. We'll put these under ‘\$DIR/cdrom’. The CDROM will contain:

- ‘AAAREADME’ (named so it appears first in an `ls` listing) briefly explains what the CD is all about.
- ‘INSTALL’ is a perl script that performs the bulk of the installation.
- ‘etc/’ contains files and directories that get installed in ‘/etc’.
- ‘export/’ contains ‘/usr/local’ (in ‘\$DIR/usr+local’) and a handful of mostly empty home directories.
- ‘install-solaris8.ascii’ is this document, created via `makeinfo --no-headers --no-validate install-solaris8.texi > install-solaris8.ascii`.
- ‘slash/’ contains user root’s ‘.profile’, ‘.bashrc’, and ‘.Xdefaults’.
- ‘usr/’ contains the replacement ‘/usr/dt/bin/Xsession’, and also ‘/usr/openwin/lib/libXpm.so.4.11’. (The installation script will create symbolic link ‘/usr/openwin/libXpm.so’).
- ‘var/’ contains ‘var/yp/Makefile’, ‘var/yp/maps’, and ‘var/samba/’.
- ‘zzz/’ (‘zzz/README’, really) protects against a bug in some versions of mkisofs, where the very last file wouldn’t make it into the filesystem.

#### 3.5.2 Create \$DIR/cdrom-image.iso

```
$DIR# mkisofs -d -D -R -o cdrom-image.iso cdrom-image
it's normal to get a bunch of messages.
```

#### 3.5.3 Burn the CDROM

We usually have to do this on a different computer where cdrecord has been installed (we haven’t been able to get cdrecord to work under Solaris; however it works just fine under FreeBSD):

```
cdrecord -v -dev=2,0 -data cdrom-image.iso
the 2 in -dev=2,0 is the SCSI target
```

## Appendix A Misc procedures

### A.1 Running sys\_unconfig to change NIS domain and/or IP address

The sys\_unconfig command allows you to change your NIS domain or IP address.

1. Run **sys\_unconfig**. The system will halt. After the machine halts you can power it off to move it to its new location.
2. Boot the computer. If you never powered it off, type **boot** at the ‘ok’ prompt.
3. Select ‘0’ (English) at the ‘Select a Language’ prompt.
4. Select ‘5’ (USA ISO8859-1) at the next prompt.
5. At the next prompt enter the machine’s short host name. I.e, enter ‘sunland’, not ‘sunland.gsfc.nasa.gov’. Press **F2** to continue.
6. At the ‘Networked’ prompt select ‘Yes’. Press **F2** to continue.
7. At the ‘IP Address’ prompt, enter the machines IP address. Press **F2** to continue.
8. At the ‘Confirm Information’ prompt, press **F2** to continue.
9. At the ‘Name Service’ prompt, select ‘None’ and press **F2** to continue.
10. At the ‘Confirm Information’ prompt, press **F2** to continue.
11. At the ‘Subnets’ prompt, select ‘Yes’.
12. At the ‘Netmask’ prompt, enter the netmask.
13. At the first ‘Time Zone’ prompt, select ‘United States’ and press **F2** to continue.
14. At the second ‘Time Zone’ prompt, select the appropriate time zone and press **F2** to continue.
15. At the ‘Date and Time’ prompt, make appropriate changes and press **F2** to continue.
16. At the ‘Confirm Information’ prompt, press **F2** to continue.
17. Enter a Root password. This should be something hard to guess (and hopefully easy to remember). Don’t use “ti^EZ2g” (this is not easy to guess – think about it).
18. Re-enter the Root password.
19. No, we don’t want ‘this automatic power-saving shutdown’.
20. No, we don’t want ‘the system to ask again, when you reboot next’.
21. Log in as root
22. Check ‘/etc/hosts’. Make sure there’s an entry for this machine, and make sure that entry has the fully qualified name first. Edit if necessary. ‘/etc/hosts’ should look something like:
 

```
127.0.0.1 localhost
128.184.232.163 yaya.yoyodyne.com yaya loghost
```
23. Check ‘/etc/auto\_direct’; make sure it doesn’t reference the old host name. Edit if necessary.
24. Check ‘/etc/auto\_home’; make sure it doesn’t reference the old host name. Edit if necessary.

25. Create '/etc/defaultdomain'.
26. Create '/etc/defaultrouter'.
27. Check '/etc/resolv.conf'.
28. [NIS server only] Check '/var/yp/maps/auto\_direct'.
29. [NIS server only] Check '/var/yp/maps/auto\_home'.
30. [NIS server only] Check '/var/yp/maps/hosts'.
31. [NIS server only] Run **domainname** 'cat /etc/defaultdomain'
32. [NIS server only] Run **ypinit -m**
33. [NIS server only] Check '/var/yp/securenets'. Make sure your new IP address is included. BEWARE OF TYPOS!
34. Check '/etc/nsswitch.conf'. It should look like '/etc/nsswitch.files' except the *passwd*, *group*, *hosts*, *netgroup*, *automount*, and *aliases* should say '*files nis*' instead of '*files*'.
35. Reboot.

## A.2 Misc tasks

Getting a new disk to mount during boot:

Edit '/etc/vfstab'; for example, to mount the disk at target 1 as '/x' add the line:

```
/dev/dsk/c0t1d0s2 /dev/rdsk/c0t1d0s2 /x ufs 2 yes -
```

Changing the X server's resolution and color depth:

Let's suppose your brand new Ultra 5 comes up at 1280x1024x76Hz with 8 bit color and you'd like to change it to 1152x900x76 with 24 bit color:

First, change the resolution. The exact command depends on the kind of frame buffer you have, so The first thing is to figure out what kind of frame buffer it has and how to control the frame buffer. On an Ultra 5 the command is '/usr/sbin/m64config'; this was inferred via

```
$ ls -l /dev/fb
lrwxrwxrwx 1 root root 42 Jun 12 01:30 /dev/fb ->
/devices/pci@1f,0/pci@1,1/SUNW,m64B@2:m640
$ ls -l /usr/sbin/*config
/usr/sbin/auditconfig /usr/sbin/ifconfig /usr/sbin/sysidconfig
/usr/sbin/drvcfg /usr/sbin/m64config
/usr/sbin/hostconfig /usr/sbin/sys-unconfig
```

On another machine, the command might be '/usr/sbin/ffbconfig'.

Anyway, to change an Ultra 5's resolution use a command like:

```
/usr/sbin/m64config -res 1152x900x76
```

Once the resolution is right, you can change the color depth by copying '/usr/dt/config/Xservers' to '/etc/dt/config/Xservers' and editing '/etc/dt/config/Xservers': change the last line from

```
:0 Local local_uid@console root /usr/openwin/bin/Xsun :0 -nobanner
```

```
to
:0 Local local_uid@console root /usr/openwin/bin/Xsun :0 -dev
/dev/fb defdepth 16 -nobanner
(one long line)
```

Note that older Ultra 5 and Ultra 10 systems only support 8 bit color depth.

## Index

(Index is nonexistent)

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